

# Final Master Dissertation

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## **Why do I keep mixing the meaning of some words? Teaching or not teaching vocabulary in semantically related sets in EFL**

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Author: Clara Otermin Leiza

Tutor: Amparo Lázaro Ibarrola

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## Abstract

Over the time, teaching vocabulary in semantically related sets of words has been the only way of teaching. Nonetheless, in the last decades there have been several studies which show that teaching vocabulary in semantically related sets interferes rather than facilitates learning. The present study is going to replicate two recent studies. The study of Papathanasiou (2008) with Greek students and the study of Lázaro Ibarrola and Hidalgo Gordo (2015) with Spanish students. In both cases the results suggested that teaching vocabulary in semantically unrelated sets was more effective.

Our study was carried out with Spanish students in two intact classes in Secondary School. After doing a Pre-Test, both groups were taught two different groups of 16 words; one group had 16 semantically related words and the other group had 16 semantically unrelated words. Even if the results of the present study are not categorical, that is to say, both techniques seem to be successful, looking at the groups' characteristics in further detail, it seems that we arrive at the same conclusion as Papathanasiou (2008) and Lázaro Ibarrola and Hidalgo Gordo (2015): students acquire more vocabulary when it is presented in an unrelated fashion.

Key words: Vocabulary, Semantically related words, Semantically unrelated words, EFL.

## Resumen

Con el paso de los años, la única técnica utilizada en la enseñanza del vocabulario ha sido la agrupación de palabras en campos semánticos. No obstante, en los últimos años varios estudios han demostrado que esta técnica interfiere en el aprendizaje del vocabulario. En este estudio se va a realizar la réplica de dos estudios recientes. El estudio de Papathanasiou (2008) realizado con estudiantes griegos y el estudio de Lázaro Ibarrola e Hidalgo Gordo (2015) con estudiantes españoles. En ambos los resultados sugieren que la enseñanza del vocabulario no relacionado resulta más efectiva.

Nuestro estudio fue llevado a cabo con estudiantes españoles en dos clases intactas de Educación Secundaria Obligatoria (ESO). Después de hacer el pre-test, dos listas de 16 palabras fueron preparadas para enseñar a los grupos: un grupo tuvo 16 palabras semánticamente relacionadas y el otro grupo tuvo 16 palabras semánticamente no relacionadas. Aunque los resultados no fueran categóricos, puesto que ambas técnicas parecían exitosas, teniendo en cuenta las características de los grupos, parece que llegamos a la misma conclusión que Papathanasiou (2008) y Lázaro Ibarrola e Hidalgo Gordo (2015): los estudiantes adquieren más vocabulario cuando se les enseña de forma no relacionada.

Palabras clave: Vocabulario, Palabras semánticamente relacionadas, Palabras semánticamente no relacionadas, EFL.

## Laburpena

Urteak pasa einean, semantikoki erlazionatutako hitz multzoak izan dira hiztegia irakasteko modu bakarra. Hala ere, azkeneko hamarkadetan hainbat ikerketak erakutsi dute semantikoki erlazionatutako hitz multzoen irakaskuntzak hiztegiaren irakaskuntza oztopatu egiten duela, lagundu baino. Ikerketa lan honek bi ikerketen erreplika aurkeztuko du. Papathanasiou (2008)-ren ikerketa, greziar ikasleekin eta Lázaro Ibarrola eta Hidalgo Gordo (2015)-ren ikerketa, espainiar ikasleekin. Bi kasuetan, emaitzek gauza bera diote: semantikoki erlazorik ez duteen hitzak eraginkorragoak direla hauen irakaskuntzarako.

Gure ikerketa Derrigorrezko Bigarren Hezkuntzako (DBH) bi gelek in eman da. Aurre test-a egin ondoren, 16 hitzetako bi hitz multzo desberdin irakatsi zaizkie bi taldeei: talde bati semantikoki erlazionatutako 16 hitz eta beste taldeari erlazorik gabeko beste 16 hitz. Nahiz eta emaitzak kategorikoak ez izan, hau da, bi teknikak eraginkorrak direla dirudi, taldeen ezaugarriei erreparatuz gero, Papathanasiou (2008) eta Lázaro Ibarrola eta Hidalgo Gordo (2015) iritsi ziren ondorio berdinerara iristen garela esan daiteke: ikasleek hitz gehiago jasotzen dituzte semantikoki erlazorik gabeko hitzak aurkeztzen direnean.

Hitz esanguratsuak: Hiztegia, Hitz elkarlotuak semantikoki, Semantikoki erlazio gabeko hitzak, EFL

## 1. Introduction

The process of how languages are learnt has been profusely investigated in the literature. The study of second language acquisition (SLA) includes the acquisition of a first language, second language and foreign language. Second language, which implies learning a language in a context where it is widely spoken, and foreign language, which implies learning in a context where the language is not present outside the institutional setting where it is taught. English, being one of the most spoken languages in the world, has been one of the most investigated. On the other hand, while most SLA research has contributed to understand the acquisition of grammar, vocabulary has also been the focus of a great deal of studies in the past decades. Vocabulary started being the focus of attention for researchers around 1970 when investigators started thinking whether the methodology used was properly implemented or not to promote the acquisition of vocabulary. Thus, the study of vocabulary was connecting two fields that have often developed along parallel roads: SLA research and classroom practices.

Vocabulary is one of the most important features in language acquisition as without vocabulary a language cannot be spoken. Indeed, as Wilkins (1972) stated “while without grammar very little can be conveyed, without vocabulary nothing can be conveyed”. So to a certain point, vocabulary is the basis of every language.

Taking into account its importance, there are a lot of studies on the acquisition of vocabulary from different points of view trying to help teachers to teach in a more effective way. Among other variables, the following ones have been considered in the literature:

- Vocabulary input: whether it is better acquired visually, orally or how it is presented in EFL books, among others.

- Whether vocabulary acquisition is better in integrated (within a text) or isolated (vocabulary taught before the text) vocabulary teaching.
- Vocabulary learning strategies.
- Keeping vocabulary notebooks to take control of their learning or the autonomy it gives to students.

Nonetheless, this study will focus on the semantically related and semantically unrelated issue. That is to say, whether the acquisition of vocabulary is better given in semantically related sets or semantically unrelated sets of words. Mainly because vocabulary in textbooks is presented in semantically related fields but research has pointed that there seem to be more effective ways, like semantically unrelated fields.

The current study is an investigation done in an intact class in a Secondary school at the north of Spain, where a partial replication to the paper by Papathanasiou (2008) and Lázaro Ibarrola and Hidalgo Gordo (2015) was made.

## 2. Theoretical Framework

There have been many theories in the last years about learning strategies and vocabulary learning or the acquisition of vocabulary. There are some evidences that state that learning vocabulary in semantically related sets of words facilitates learning while some others have opposite believes saying that it rather interferes learning, while learning in semantically unrelated sets of words facilitates the acquisition of new vocabulary in English as a Foreign Language (EFL) or English as a Second Language (ESL).

Aitchison (1994) stated that there is evidence on the theory about teaching semantically related sets as words are organized in the human brain and therefore, people retrieve words from the semantic field built in their minds. Haycraft (1993) also makes a

comparison of learning vocabulary in unrelated sets of words to having vocabulary “flying” in our minds. Furthermore, according to Haycraft (1993) teaching a large number of words grouped in semantically unrelated sets could be compared to having a tree with no trunk and branches, but only leaves. This author follows stating that learning vocabulary in semantically related sets makes learning easier as learners can form a pattern of interrelated words in their mind. In addition to this, López-Mezquita (2005) stated that all vocabulary is stored in our minds in semantic fields, which means that we should be teaching it accordingly.

In order to see how vocabulary is usually presented to EFL students it is as simple as regarding books from some of the main publishers, like Bridges, Living English, Trends or Real English from Burlington publisher, and English Alive or Mosaic from Oxford publisher among others, to state that the methodology used by books is teaching vocabulary in semantically related sets of words. Each unit of these books has a wide range of vocabulary on a list in which there is a hypernym or superordinate as can be seen in the following picture (picture 1)<sup>1</sup>.

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<sup>1</sup> Copy from Real English 4, Unit 7. Linda Marks and Charlotte Addison. Burlington Publisher. 2010



Picture 1

**Real World**

**Vocabulary >> Health**

1. Look at the doctor's reports and the diagnoses below. Listen and repeat the words in blue. Then match a diagnosis to each report.

**1 Doctor's Report**

Patient: Sue Brown

Symptoms: rash, itchy skin, runny nose, can't breathe easily

Treatment: monthly injections, antihistamine pills

Diagnosis: 1. ....

**2 Doctor's Report**

Patient: Mike Mills

Symptoms: temperature, sore throat, cough, stomach ache, headache

Treatment: bed rest, aspirin

Diagnosis: 2. ....

**3 Doctor's Report**

Patient: Kay Reeves

Symptoms: swollen foot, severe pain

Treatment: referred patient to emergency room

Diagnosis: 3. ....

diagnoses:

flu • broken foot • allergic reaction

2. Copy and complete the sentences with words in blue from the reports above.

- I need a tissue all the time. I've got a ....
- My back is very red. I've got a ...
- I probably ate something bad. I've got a ...
- I've been in an accident. I must go to the ...
- I've hurt my wrist and it's bigger than usual. It's very ...

3. What parts of the body do you know in English? Which can you break?

As can be seen in picture (1), all the vocabulary is related to the semantic field “health”.

And then, several activities related to this semantic field are presented.

Nonetheless, in one of the last books published by Burlington (Living English) unrelated set of words also can be found in each unit. That is to say, each unit starts with a text and

the following page is vocabulary related to the text in which even if the vocabulary is related to the topic, it is not of the same semantic field (integrated vocabulary teaching) which is shown in picture 2<sup>2</sup>:

Picture 2

VOCABULARY

**1 WORDS FROM THE TEXT** Choose the correct answer. Pay attention to the words in colour.

- The owner of our flat **pays** / **receives** rent every month.
- A **gigantic** plane can hold **many** / **a few** passengers.
- A **path** is used by people who are **walking** / **driving**.
- It's a pity to miss a **good film** / **boring lecture**.
- There is a **ban** on **talking** / **texting** while driving.
- A lazy person would **refuse** to **work hard** / **rest**.
- An island has **land** / **water** surrounding it.
- If you **want** / **don't want** something, just make a **request**.

**2 Replace each word or expression in bold with a word or expression in colour from the list.**

*proper • stay behind • treacherous • come back  
attempt • disturbing • ignore • find out*

- When are you planning to **return** from your holiday?
- I'm sure you'll be warm enough with **suitable** clothing.
- Just **don't pay attention** to his insulting remarks.
- When did you **discover** the truth?
- We decided to **remain after the others had left**.
- I'm going to **try** to prepare some traditional dishes.
- Children might find that horror film quite **upsetting**.
- They drove slowly on the **dangerous**, icy road.

**Noun and Adjective Suffixes**

Recognising suffixes can help you identify different parts of speech.

Nouns often end in suffixes such as *-tion/-sion, -ment, -ness, -ance/-ence, -ship* and *-ity*:  
*attract → attraction    responsible → responsibility*

Adjectives often end in suffixes such as *-al, -able/-ible, -ous, -ive, -ing, -ed, -ful* and *-less*:  
*spirit → spiritual    impression → impressive*

Grammar Appendix, Workbook page 83

**4 Add suffixes to the following words to make nouns or adjectives, according to the part of speech in brackets. Use your dictionary to help you.**

1. influence (adjective)	5. national (noun)
2. connect (noun)	6. peace (adjective)
3. offend (adjective)	7. luxury (adjective)
4. accept (adjective)	8. improve (noun)

**5 Complete the sentences with the nouns and adjectives you formed in Exercise 4. Make any necessary changes.**

- I hope my behaviour wasn't ..... to our visitors.
- Has there been any ..... in their living standards?
- It's perfectly ..... for a girl to ask a boy out on a date.
- What ..... is Mr Liu?
- The world could be a ..... place if people were more tolerant.
- The hotel rooms were surprisingly .....
- Do you feel a strong ..... to your culture?
- The village leader is a very ..... person. People listen to what he says.

**6 WORDS IN USE** Complete the passage with the words and expressions below. There are more words than you need. Then listen and check your answers.

*connection • management • found out • request  
destruction • luxurious • ignored • surrounding  
effective*

**Fire in the Desert**

If you visit Uluru, you may be surprised to see that the desert ..... the rock is full of plants. The Anangu people have a strong ..... to the land, using the plants for food, medicine and clothing. They also know that there is only one ..... way to prevent the ..... of the plants by wildfires during Uluru's dry season: every year, they light many small, controlled fires, so that some areas will have no plants. This way, wildfires are unable to spread. When the Europeans took over the ..... of Uluru, they completely ..... the Anangu's method, but they later ..... that this was a mistake. Too many plants grew and then dried out, leading to terrible wildfires that destroyed large parts of the park. After this, they made a ..... : they asked the Anangu to teach them their traditional fire-control methods, which are used to this day.

As it can be seen in this picture, this book provides several activities with semantically unrelated fields. The vocabulary provided, which is taken from the text in the previous

<sup>2</sup> Copy from Living English 1, Unit 1. Elizabeth Grant. Burlington Publisher (2014)

page, is related to the topic but with different superordinate: they are semantically unrelated words. In addition to this, this book presents later vocabulary grouped in semantically related sets connected to the topic of each unit too.

Waring (1997) claims that there is a belief among course book writers that putting vocabulary in semantically related sets (or semantic clusters as he says) facilitates or helps learning. And continues saying that this belief is rather found in methodology than in research. Furthermore, López-Jiménez (2010:156) mentions that “for many L2 teachers many textbook writers regard textbooks as a tool that saves teachers time”.

In contrast to this, one of the first vocabulary research carried out by Mcgeoch and McDonald (1931) state that if the set of words being learned are too similar, “this interfered with learning”. In addition to this, Baddeley (1990) and Higa (1963, 1965) developed the so called “Interference Theory” which consists on a theory about the interference teaching vocabulary in related sets provokes. Or in other words as Tinkham (1997) summarizes:

‘Interference Theory’ postulates that as the similarity between information intended to be learnt and information learnt either before or after that information increases, the difficulty of learning that information also increases.

Nation (2000), the main author in vocabulary acquisition, stated that course designers need to create books of normal vocabulary acquisition, that is to say, in the same way as the L1 vocabulary is acquired in order to make vocabulary acquisition easier and not interfered. He then suggests that it is good presenting vocabulary in semantically related sets once vocabulary is well established in our brains, and for that, first it needs to be acquired in unrelated sets. Furthermore, Wolter (2001) compares the acquisition of the

lexicon in native speakers and non native speakers and concludes that when the L2 has been acquired in a higher level, mental lexicon seems to be similar to the mental lexicon found in the L1.

Some experimental evidence shows that teaching vocabulary in semantically unrelated sets seems to be better than learning in semantically related sets. Waring (1997) found that presenting new words that share meaning or as he stated “a common superordinate in a set of words to learn” interferes the learner’s vocabulary acquisition. Waring (1997) also comments in the results of his investigation that students took more time to acquire the semantically related sets of words rather than the unrelated sets. The researcher mentions the considerably difference of timing in acquiring each vocabulary.

Tinkham (1997) calls this distinction of vocabulary grouping in a different way; semantic clusters and thematic clusters. ‘Semantic clusters’ makes reference to a semantically related set of words while ‘thematic cluster’ would be making reference to semantically unrelated set of words but about the same topic like *frog, green, hop, pond, slippery* and *croak*, for example. This researcher arrives at the conclusion that the experiments show clear indication that new L2 vocabulary items arranged in semantic clusters are learnt with more difficulty than new vocabulary items learnt in thematic clustering:

Semantic clustering of new L2 vocabulary items appeared to serve as a detriment to the learning of vocabulary while thematic clustering appeared to serve as facilitator of learning.

In fact, similar results were shown in two separate but parallel experiments. And continues by recommending presenting vocabulary in thematic clusters rather than semantic clusters as this may not lead students to so much confusion as semantic clusters

do. Later, Erten and Tekin (2008) found significantly better results in the technique of teaching vocabulary in unrelated sets too.

Papathanasiou (2008) also finds in her study that learners acquire vocabulary in an easier way having vocabulary in unrelated sets. Therefore, she suggests simplifying L2 vocabulary learning by acquiring semantically unrelated vocabulary in the books (at least at beginner level, Papathanasiou (2008) specifies). As intermediate learners already have some background knowledge about vocabulary it could be a good idea teaching them in semantically related sets (Nation, 2000). In a replication of this paper by Lázaro Ibarrola and Hidalgo Gordo (2015) with two groups of Spanish students learning English in a Private School. A Pilot Test, or a Pre-Test, was first done from which 10 words for each technique (semantically related set of words and semantically unrelated set of words) were chosen. These two techniques were taught to both groups in and a post-test was made after a week. Indeed, the results found that teaching semantically unrelated sets of words seem to be better. This conclusion supported the results by Papathanasiou (2008).

As a continuation to this, the current paper will be a replication to Papathanasiou (2008) and Lázaro Ibarrola and Hidalgo Gordo (2015) in order to check whether the same results are found or not. Nonetheless, some variables are going to be changed in the current study: namely the list of words, the teaching procedure (instruction and the games used), the level of the students and only one technique per group will be taught.

### 3. The Study

#### 3.1. Research questions

As this is a partial replication to Papathanasiou (2008) the same Research Question will be used. Moreover, one more question will be added taking into account that the present study has been carried out with Spanish EFL students in a school context with the ultimate aim of improving the teaching of vocabulary. The first question is quantitative while the second one is qualitative as it is an observational analysis:

1<sup>st</sup> question (by Papathanasiou (2008))→Quantitative

- ✓ Which of the two ways of presenting and organizing the teaching of new L2 vocabulary produces better retention of words in Short-Term and Long-Term vocabulary translation tests? (semantically related vs. semantically unrelated)

2<sup>nd</sup> question→Qualitative

- ✓ Is there any difference in the behaviour of the students while learning the vocabulary in the two modes?

#### 3.2. Participants

The study was carried out with 48 Spanish EFL students learning in a state school, I.E.S. Lekaroz, placed in the north of Spain. They were taught three hours a week of English in the school since they were six or seven. Their age when the study was carried out was 15/16 and their average level was B1 following the Common European Framework of Reference for Languages. Through the investigation each group was a 24 students' group. Nonetheless, there was a slight difference on the level of both groups. One of the groups had slightly better level than the other one. Therefore, the “higher”

group, group 1 (G1 from now on), was taught the semantically related sets of words while the “lower” group, group 2 (G2 from now on), was taught semantically unrelated sets of words.

Table 1

	English Proficiency	Methodology
<b>GROUP 1</b>	Higher proficiency level	Semantically related set of words
<b>GROUP 2</b>	Lower proficiency level	Semantically unrelated set of words

Regarding the instruments in the research, students began with a Pre-Test (see appendix 1) where they had a total of 151 words and they had to tick (✓) if they knew the word and try to translate it. After Easter, they had the teaching in which both groups were taught different techniques in the same way (as it will be explained later on). After a week, students had to do a post-test in which the 16 taught words had to be translated and the week after students did a delayed post-test, in which again, they had to translate these 16 words.

### 3.3. Procedure

It took three weeks to do the experiment as it is shown in table 1 below:

Table 2

	<b>Group 1</b>	<b>Group 2</b>
Week 1	Pre-test	Pre-test
Week 2	Teaching related sets of vocabulary	Teaching unrelated sets of vocabulary
Week 3	Post-test	Post-test
Week 4	Delayed post-test	Delayed post-test

The first week students were presented the pre-test with 151 words (see appendix 1); they had to tick the words they knew and translate them if possible, as mentioned before. This was a way of ensuring the knowledge of the given words. Once the pre-test was completed, 16 words were selected, for G1, 16 related words and for G2, 16 unrelated words. Words were selected regarding all students' answers. In other words, even if there was a single student that knew the meaning of a word, that word was eliminated. Below the words selected for each group are presented:

➤ Group 1 (Related Set of Words):

1. Rattle
2. Diaper
3. Dummy
4. Cradle
5. Stroller
6. Crawl
7. Potty
8. Lullaby
9. Vest
10. Playpen
11. Bathtub
12. Baby wipe
13. Intercom
14. Swing
15. Changing pad
16. Bib



➤ Group 2 (Unrelated Set of Words):

1. Wrinkles
2. Hanger
3. Mussel
4. Waxing
5. Hoover
6. Grumpy
7. Lighter
8. Roundabout
9. Eiderdown
10. A fine
11. Deaf
12. Cashier
13. Calf
14. Hiking
15. Pedestrian
16. Diaper

On the second week, students were taught the 16 words. For that, even if each class had different sets of vocabulary, the teaching procedure was the same in both groups. First, the teacher presented in a Power Point presentation each word (see appendix 2), the teacher made mimics so students had to guess what the word meant. Then a sentence was presented, for example, “Hanger: When I arrive home, I put my coat in a hanger and I leave it in the cupboard”. If they did not know the meaning yet, a definition was given and after that, a picture was shown with the translation after (see appendix 3).

Once students had understood all the words, we moved on to the practical part. First of all, in order to be sure that all students had understood all the words a review was done in which without mimics or pictures, they had to translate the meaning. After that, seeing that all students had understood the meanings we moved on to the games. To begin a matching game was done (see appendix 4), but in order to be sure that students knew how to translate the words they were asked to put the words in English in one lot and the pictures in another one, and all of them facedown. First, they had to take a word and

translate it, if they did it right, they could take a picture, if not they could not continue and the rest of the students had to tell the answer as the aim of the game was learning. They played that game for about 15 minutes and then another game was done: Choose the right answer. In a Power point presentation, several questions were presented with 4 different answers (see appendix 5), similar to Quizziz<sup>3</sup> or Kahoot!<sup>4</sup> but without the use of the internet as these facilities were not available in the classroom. Therefore, students were given a paper in which A, B, C or D was shown (see appendix 6). And they had to answer showing the paper. In that way, it could be seen whether students had understood the meaning or not. Once this game had finished, the teacher asked the 24 students to write down all the words they could remember from the list taught at the very beginning. All of them did so, and it was corrected orally. Once they finished a final review was done, showing them each word in the Power Point and they had to translate it, as a final game, the matching game was repeated with the same rules as before.

The post-test and the delayed post-test were done by weeks 3 and 4. In these tests students had to translate the 16 words previously taught (see appendix 7). The only difference between the post-test and the delayed post-test was the words' order, as it was changed in the delayed post-test (see appendix 8).

## 4. Results

### 4.1. Quantitative results

As it is shown in the tables 3 and 4 below results are not too different and both groups have a total over 50% in all the tests. That is to say, G1 showed a slight weaken

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<sup>3</sup> <http://quizizz.com/>

<sup>4</sup> <https://kahoot.it/#/>

in the delayed Post-Test. Generally speaking, quite a lot of participants in G1 remember less words in the delayed Post-Test while most of the students in G2 seem to remember more words, most of the students in G2 did a bit better in the Delayed Post-Test as it can be seen in Table 2. Nonetheless, there is no significant difference between both groups. In fact, there are some differences in both groups regarding post-test and delayed post-test but the differences are not significant in terms of statistics as it is stated in the following lines.

Z-Test for two proportions have been used for the analysis presented in the paper. When comparing the results of the pre and post-test in G1, the difference is statistically non-significant ( $p=0.35$ ). The same results are found when comparing pre and post-test in G2, statistically speaking the difference found is non-significant ( $p=1.66$ ). Moreover, when comparing G1's pre-test and G2's pre-test the same results are found, the difference is statistically non-significant ( $p=0.64$ ). Furthermore, if both post-tests (G1's post-test and G2's post-test) are compared, the same difference is found, statistically non-significant ( $p=1.85$ ). In light of the results, there does not seem to be differences between G1 and G2 as there is not statistical significant difference between the results found in the investigation.

In line with previous studies the numerical results, then, are not the ones foreseen as G2 was expected to have much better results than G1.

Table 3

RELATED SET OF WORDS		
Student	P.T.*	D.P.T.**
1	12	14
2	14	13
3	9	11
4	11	12
5	8	8
6	15	16

Table 4

UNRELATED SET OF WORDS		
Student	P.T.*	D.P.T.**
1	13	15
2	10	12
3	7	8
4	16	16
5	14	14
6	8	5

7	11	9
8	11	11
9	16	16
10	14	14
11	11	11
12	13	11
13	14	11
14	11	11
15	14	13
16	16	9
17	10	15
18	12	14
19	10	5
20	9	8
21	16	16
22	16	15
23	14	15
24	14	15
<b>TOTAL/384</b>	<b>301</b>	<b>293</b>
<b>Percentage</b>	<b>78,39%</b>	<b>76,30%</b>
<b>Average</b>	<b>12,54</b>	<b>12,21</b>

7	16	16
8	12	14
9	16	16
10	12	12
11	10	11
12	16	16
13	8	8
14	12	11
15	16	16
16	16	16
17	12	10
18	12	14
19	10	9
20	12	14
21	14	14
22	10	12
23	11	11
24	15	16
<b>TOTAL/384</b>	<b>298</b>	<b>306</b>
<b>Percentage</b>	<b>77,60%</b>	<b>79,69%</b>
<b>Average</b>	<b>12,42</b>	<b>12,75</b>

\*Post-test

\*\*Delayed post-test

Taking into account these numerical results, even if they do not show clear evidence of what Papathanasiou (2008) and also Lázaro Ibarrola and Hidalgo Gordo (2015) stated, if we analyze the results in further detail taking into account previous information about the students we can reach the same conclusion as these researchers. G1 has a higher level of proficiency in English than G2. As shown in Lázaro Ibarrola and Hidalgo Gordo (2015), students with higher levels of proficiency do better than lower proficient students with both techniques. In our data, the more proficient group (G1) used the less effective technique (semantically related words) whereas the lower level group (G2) used the more effective one (semantically unrelated words). As the lower level group obtained results similar to the higher level one, it seems to confirm that the unrelated

fashion is more effective. On the contrary, the higher level group, which would have been expected to obtain better results, only matched the results of the lower proficiency group with the semantically related technique suggesting that this technique is less effective. On the other hand, no significant differences were found between post-tests and delayed post-tests suggesting that retention is also similar in both groups.

#### 4.2. Qualitative results

The observations conducted by the researcher can complete the quantitative results presented in the previous section. Some evidence can be found to support what previous researchers have suggested (even if the differences are not numerically stated). Waring (1997) mentioned in his investigation that it took more time for students to acquire semantically related sets of words rather than semantically unrelated sets of words. And this is something that happened during this investigation, that as an observational analysis it could be said that students concerned with the semantically related sets of words asked more questions and had more doubts than the others:

- While reviewing the words (before starting with the games) students in G1 were mixing a lot of meanings. It took longer to translate all the meanings without the help of the teacher than it took with G2.
- During the matching game, students in G1 were constantly asking for the translation of some words as they were mixing the meanings.
- Choose the right answer: they did it better comparing to the previous activities but still they mixed some of the meanings, even the smartest students.
- In one of the last games “write down all the words you remember”, G1 did slightly worse than G2 as they could not remember some of the different

words even if they knew that there were more. They were not even able to translate them; they just could not remember them.

Not only this, but also in both the post-test and the delayed post-test, G1 had more doubts than G2. Mainly because answers showed that most of the students in G1 mixed more meanings than G2 did as it is shown in table 5 and 6 below:

Table 5

	<b>GROUP 1</b>	<b>GROUP 2</b>
<b>MISTAKEN WORDS in the POST-TEST</b>	<ul style="list-style-type: none"> <li>- Cradle with crawl (x4)</li> <li>- Crawl with potty</li> <li>- Baby wipe with stroller</li> <li>- Baby wipe with cradle (x2)</li> <li>- Baby wipe with swing</li> <li>- Baby wipe with bib</li> <li>- Bathtub with cradle</li> <li>- Dummy with diaper</li> <li>- Swing with cradle (x2)</li> <li>- Swing with crawl</li> <li>- Swing with intercom</li> <li>- Stroller with swing</li> </ul>	<ul style="list-style-type: none"> <li>- Deaf with Hoover</li> </ul>

Table 5 shows the mistaken words found in the post-test and it is easy to see the wide difference found. “Cradle with crawl” seems to be the most mistaken one but still there are 12 different types of mistakes while there was a single mistaken word in G2.

Table 6

	<b>GROUP 1</b>	<b>GROUP 2</b>
<b>MISTAKEN WORDS in the DELAYED POST-TEST</b>	<ul style="list-style-type: none"> <li>- Cradle with crawl (x5)</li> <li>- Cradle with rattle</li> <li>- Cradle with swing (x2)</li> <li>- Bathtub with cradle</li> <li>- Vest with bib</li> <li>- Changing pad with intercom</li> <li>- Lullaby with rattle</li> <li>- Rattle with swing (x2)</li> <li>- Rattle with crawl</li> <li>- Rattle with diaper</li> <li>- Crawl with dummy</li> <li>- Swing with crawl</li> <li>- Swing with bathtub</li> <li>- Potty with dummy</li> </ul>	<ul style="list-style-type: none"> <li>- Diaper with grumpy</li> <li>- Wrinkles with hoover</li> <li>- Calf with deaf</li> </ul>

The mistaken words found in the delayed post-test are shown in table 6 above. Again, even if G2 had more mistaken words compared to the post-test, G1 had a lot more. Moreover, G1 students did not do the same mistake but different ones mixing the meaning of several words and the same happened in the post-test (see table 5).

To summarize, regarding the results found in the post and delayed post-test in both groups, there were just a couple of mistaken words in the whole class in G2 while the different mistakes found in G1 was massive. Furthermore, it took longer for the G1 to complete both the post-test and the delayed post-test, with a difference of 3-4 minutes in each test.

This also comes in common with the theories by Mcgeoch and McDonald (1931), Baddeley (1990) and Higa (1963, 1965) about the interference of learning semantically related words. In fact, this also comes with what Papathanasiou (2008) mentioned in her study, as stated here in the theoretical framework, that her students found easier learning the unrelated sets of vocabulary rather than the related sets.

## 5. Discussion

In this section we discuss the finding obtained regarding the effectiveness of teaching related and unrelated vocabulary with two groups of students and regarding the observational analysis carried out by the teacher. The first question proposed in this study is the one Papathanasiou (2008) formulated in her paper;

- ✓ Which of the two ways of presenting and organizing the teaching of new L2 vocabulary produces better retention of those words when scored in Short-Term and Long-Term vocabulary translation tests?

To this question one could say that the same results were found taking into account what has just been mentioned, G1 was higher level than G2. That is to say, it seems that semantically unrelated sets of words produces better retention in short-term and long-term vocabulary translation tests.

Moving on to the qualitative question in which an observational analysis has been made:

- ✓ Is there any difference in the behaviour of the students while learning the vocabulary?

It could be said that it took longer to acquire the 16 words to G1 than G2. Indeed, G1 made more questions during the learning and even during the games students were



constantly asking for the meanings, even the smartest students. Not only this, but it also took longer for G1 to finish the post-test and the delayed post-test. While G2 finished both tests in 7 minutes, G1 did in more than 10. Moreover, as a curiosity, even the teachers had doubts in terms of some meanings of G1. Not because they were trickier because they knew their meaning separately but because once these words were in group they just mixed them.

It is important to mention that the current study had several limitations in the project as first of all, both groups were not homogeneous as G1 was better than G2. Moreover, it could also be a limitation that some of the words in G1 could be considered more difficult than the ones found in G2, however, there were no specific doubts but doubts with random words, that is to say, some had doubts with “swing” while quite a lot had doubts with “cradle”, others with “diaper” and so on so forth as shown in tables 5 and 6. Apart from that, it would be interesting to test these techniques with the same group and with a larger number of students to make these findings more robust in future research, as it was impossible to do so in the current as a matter of lack of time.

## 6. Conclusion

This study was carried out motivated by the importance of vocabulary acquisition and the amount of students with vocabulary acquisition problems in the EFL classroom. As previous studies have showed teaching vocabulary in semantically unrelated sets seems to be more effective. Therefore, the present study has carried out a study in order to see which way of teaching vocabulary is more effective. In addition to this, the teaching of vocabulary has been carried out with Spanish EFL learners in secondary school in order

to compare our results to previous works but specifically to Papathanasiou (2008) carried out with Greek students and Lázaro Ibarrola and Hidalgo Gordo (2015), whose setting was similar, as this paper is a replication to these investigations.

Even if the numerical results do not show clear evidence that supports Papahtanasiou's (2008) findings, taking into account the characteristics of each group in further detail, then it clearly supports what Papathanasiou (2008) found. In fact, students learning semantically related sets of words, G1, clearly showed more doubts, asking more questions and took longer to acquire the vocabulary and also to fulfil the post and the delayed post-tests. This brings us to the so called "Interference theory" by Baddeley (1990) and Higa (1963, 1965) and also to what Mcgeoch and McDonald (1931) mentioned which is basically the same; learning semantically related vocabulary interferes rather than helps or facilitates learning. In fact, even if Tinkham (1997), Waring (1997) and Erten and Tekin (2008) did the same investigation in unnatural settings (because they did not use natural vocabulary), they arrived at the same conclusion too, teaching vocabulary in semantically unrelated sets, facilitates the learning and the acquisition of new vocabulary.

In conclusion, our study, that has been carried out, goes with the same answers as Papathanasiou (2008) and also Lázaro Ibarrola and Hidalgo Gordo (2015): teaching semantically unrelated sets of words seems to be better in terms of acquisition than semantically related sets of words. But we still can find the semantically related sets in each textbook unit, because as Waring (1997) claims this belief is rather found in methodology than in research. Moreover, as López Jimenez (2010:156) claim "textbooks save teachers' time".

Nonetheless, further research needs to be carried out in order to support all these theories. I would recommend, if possible, checking both techniques with the same group

of learners and even gathering another delayed post-test but in longer time, maybe after a month to make a comparison between all the post-tests. It would have also been very interesting seeing the results gathered if we had had the opportunity to do so. And of course, more groups, or if not, more homogeneous groups as one of the most difficult things in this paper was having conclusions in two o heterogeneous groups. Regarding future research, a rather interesting question is proposed for future researchers or even for us in the future if we want to do further research related to vocabulary: do we learn vocabulary in semantically related sets in our native language?

## 7. Pedagogical guidelines

In light of the answers from the qualitative and the quantitative questions and focusing on some pedagogical advices, we would like to discuss if we should use both techniques in the teaching of vocabulary in the EFL classroom.

Nowadays, books like the ones mentioned in the theoretical background (Bridges, Living English, Trends or Real English from Burlington publisher, and English Alive or Mosaic from Oxford) are excellent books regarding English skills in general. Nonetheless, having a deeper look at vocabulary teaching, they are still a bit old-fashioned as vocabulary is being taught in the same way as it was 50 years ago. This suggests that an innovation is needed in vocabulary teaching.

Instead, some researchers believe that teaching vocabulary in semantically unrelated sets would be the best option to make vocabulary acquisition more effective. Ideally teachers should use both techniques, semantically unrelated and semantically related sets of words. In fact, we are in full agreement with researchers like Nation (2000)

or Papathanasiou (2008) that suggest learning first semantically unrelated vocabulary and once the language is established, learning vocabulary in semantically related sets of words.

This comes with the theory stated by Wolter (2001) about the acquisition of the lexicon in which a comparison between L1 and L2 vocabulary acquisition is made. This researcher says that once L2 is highly acquired, mental lexicon seems to be like in L1. Therefore, taking into account what Nation (2000) suggests, it could be good teaching first unrelated sets of vocabulary until the language is established and after this, related sets of vocabulary could be used for teaching. In fact, this could be a good advice due to the results found not only in this paper but also in several previous papers.

Due to this, regarding not only the present study but also previous studies, some strong recommendations are done;

- ✓ using books that include semantically unrelated sets of words in vocabulary teaching seems to be more effective for the students' vocabulary acquisition.
- ✓ When teaching semantically related sets of words, students should be taught some learning strategies to avoid the mixing of these words' meaning.

All in all, even if having both techniques in EFL coursebooks would be the best solution, it seems quite difficult yet. Therefore, teachers should not only provide students a list of words but also strategies to make vocabulary learning more effective and to avoid vocabulary meaning confusions.

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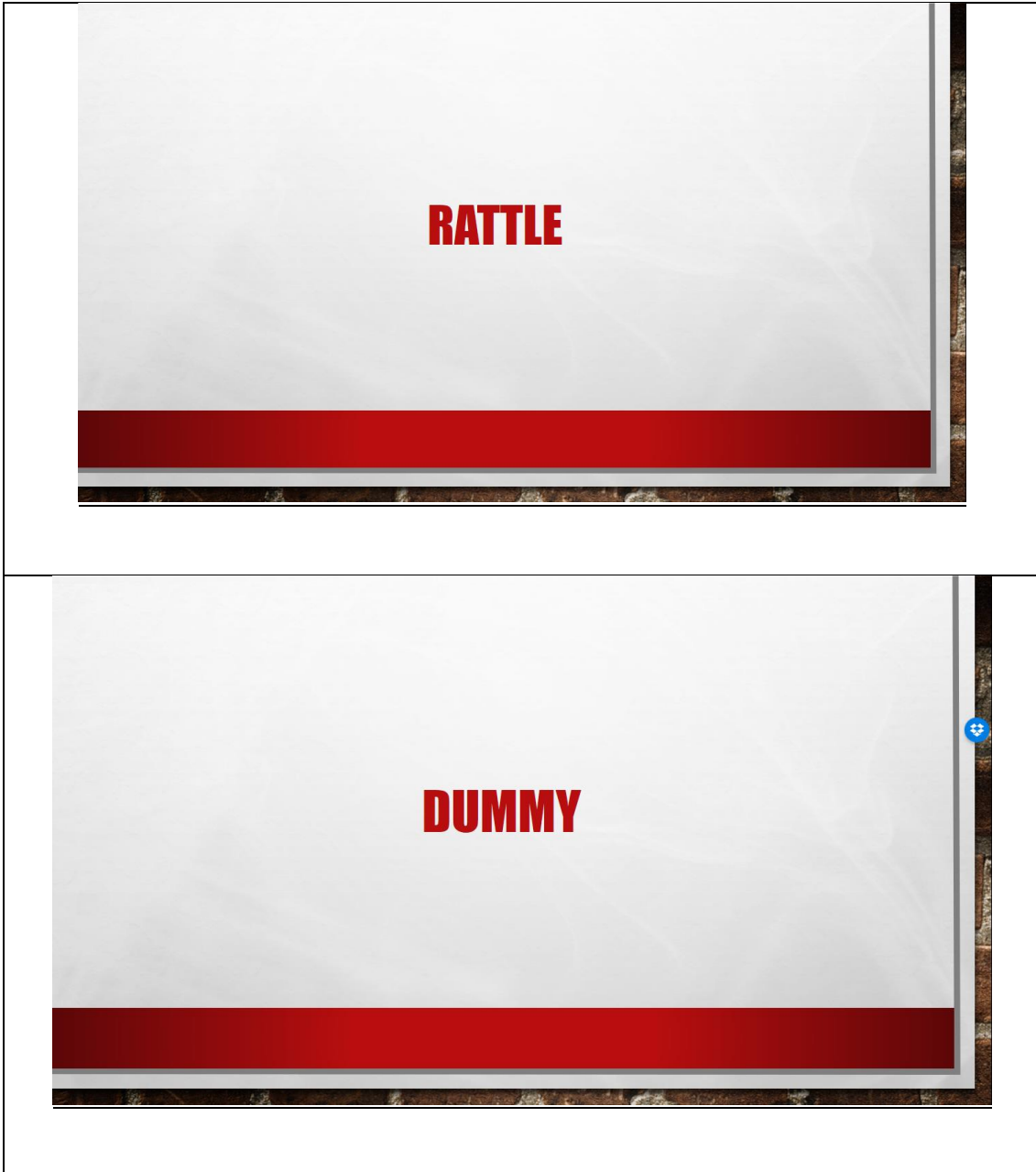
## 10. Appendixes

### APPENDIX 1

From the list of words below, read each word once. If you know a word, make a tick (✓) and try to translate it.

Rattle	Hips	Courgette	Flirt
Vest	Instep	Nuts	Ashtray
Playpen	Nape	Walnut	Guy
Bathtub	Skull	Avocado	Colleague
Baby wipe	Thigh	Wine	Mate
Intercom	Waist	Beer	Skyscraper
Swing	Wrist	Shot	Hiking
Changing pad	Wrinkles	Shelf	Drain
Bib	Eyebrows	Brum	Gutter
Diaper	Eyelashes	Brush	Pedestrian
Nappy	Sin	Dustpan	Astonishment
Dummy	Wax	Pillow	Eager
Dungarees	Roof	Sheet	Armpit
Burp	Wheel	Hangover	Grocery
Throw up	Indicator	Hoover	Blizzard
High chair	Windscreen wiper	Vacuum	Blender
Cradle	Rear mirror	Dizzy	Broad-minded
Crib	Hood	Necklace	Runny nose
Lullaby	Handle	Cuddly	Cough
Stroller	Tires	Grumpy	Flu
Teddy bear	Hubcaps	Rent	Itchy
Pregnancy	Steering wheel	Lighter	Rash
Foetus	Horn	Cab	Swollen
To crawl	Breadcrumbs	Roundabout	Fed up
Potty	Beef	Intersection	
To rock	Meatballs	Sleepy	
Poop	Garlic	Baggage	
Pee	Kidneys	Belt	
A nap	Turkey	Pill	
A rest	Squid	Oven	
Ankle	Mussel	Whisk	
Belly	Fig	Tip	
Beard	Cider	Bill	
Bladder	Grapefruit	Hanger	
Bowels	Cod	Eiderdown	
Buttocks	Porridge	Annoying	
Calf	Trout	A fine	
Elbow	Hake	Blind	
Fist	Artichoke	Deaf	
Forehead	Beetroot	Fart	
Heel	Biscuits	Cashier	

## APPENDIX 2





### APPENDIX 3

**RATTLE**





**RATTLE**



**SONAJERO**

[illegible]

## A collage of various items including colored paper squares with words like 'LIGHTER', 'WAXING', 'CALE', 'GRUMPY', 'WRINKLE', 'A FINE', 'HANGER', 'HIKING', 'DEAF', and 'HOVER', along with photographs of a person's face, a baby, a person in a uniform, and a person's foot.

## APPENDIX 5

<b>HANGER</b>	
<b>a. Eskukoa</b>	<b>b. Pertxa</b>
<b>c. Atzerrikoa</b>	<b>d. Ohea</b>

## APPENDIX 6

<b>A</b>	<b>B</b>
<b>C</b>	<b>D</b>



## **APPENDIX 7**

### **G1: POST-TEST**

Translate the following words:

1. Rattle
2. Diaper
3. Dummy
4. Cradle
5. Stroller
6. Crawl
7. Potty
8. Lullaby
9. Vest
10. Playpen
11. Bathtub
12. Baby wipe
13. Intercom
14. Swing
15. Changing pad
16. Bib

## **APPENDIX 8**

### **G1: DELAYED POST-TEST**

Translate the following words:

1. Bib
2. Intercom
3. Rattle
4. Swing
5. Playpen
6. Diaper
7. Potty
8. Cradle
9. Stroller
10. Vest
11. Crawl
12. Changing pad
13. Lullaby
14. Dummy
15. Bathtub
16. Baby wipe